HEART DISEASE PREDICTION SYSTEM

BY

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ABSTRACT

- Cardiovascular disease is one of the most fatal conditions in the present world.
- Statistical data display the Cardiovascular disease percentage of deaths worldwide caused due to heart attacks.
- Thus, there is an implicit necessity to predict the condition at the earliest.

ABSTRACT

- By utilizing the patients medical records ,anew system is proposed to predict the chances of a person contracting heart attack.
- Attributes such as age, blood pressure, thickness of the artery etc. are fed into the Logistic Regression which is used to predict risk of heart attack in a person.

EXISTING SYSTEM

- Very few systems use the available clinical data for prediction purposes and even if they do ,they are restricted by the large number of associationrules that apply.
- Diagnosis of the condition only depends upon the Doctors's intuition and patient's records.

The disadvantages are

- Detection is not possible at an earlier stage.
- In the existing system, practical use of various collected data is time consuming.

PROPOSED SYSTEM

- The proposed system acts as a decision support system and will prove to be an aid for the physicians with the diagnosis.
- Comparing and Analysing the present condition of patient with the old patients reports will become easy to the Doctor.
- Doctor can easily provide suggestions based on the output we give from the predictive model.
- We have two models. One for prediction and another for features .Through which we can be able to find good doctors for a patient.

Technology:

1. Machine Learning
2. Android

Tools:

1. Android Studio
2. Jupyter Notebook
3. Firebase Cloud Storage

SYSTEM SPECIFICATION

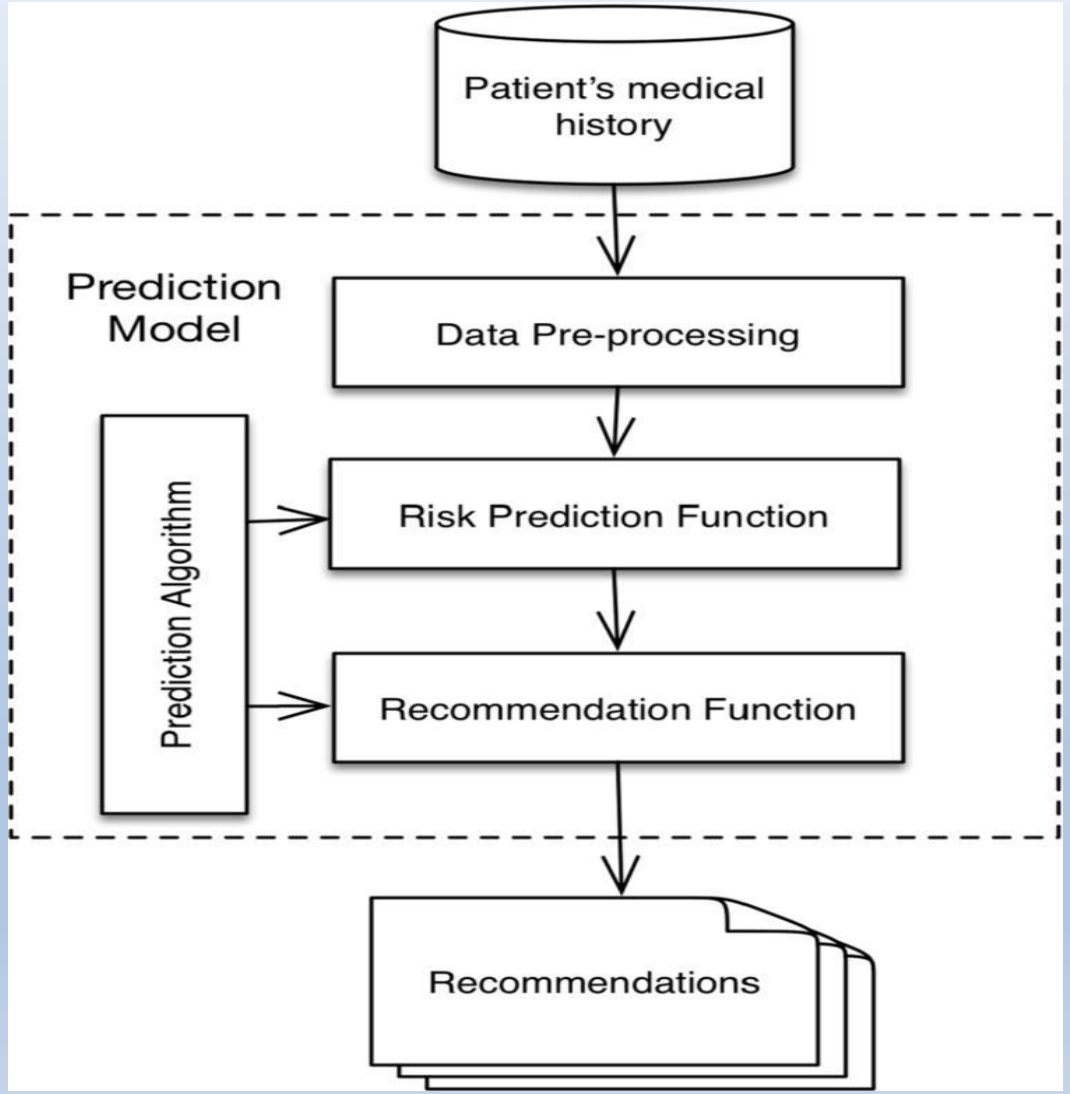
Software Requirements:

- Operating System : Windows
- Coding Languages : Java, Python

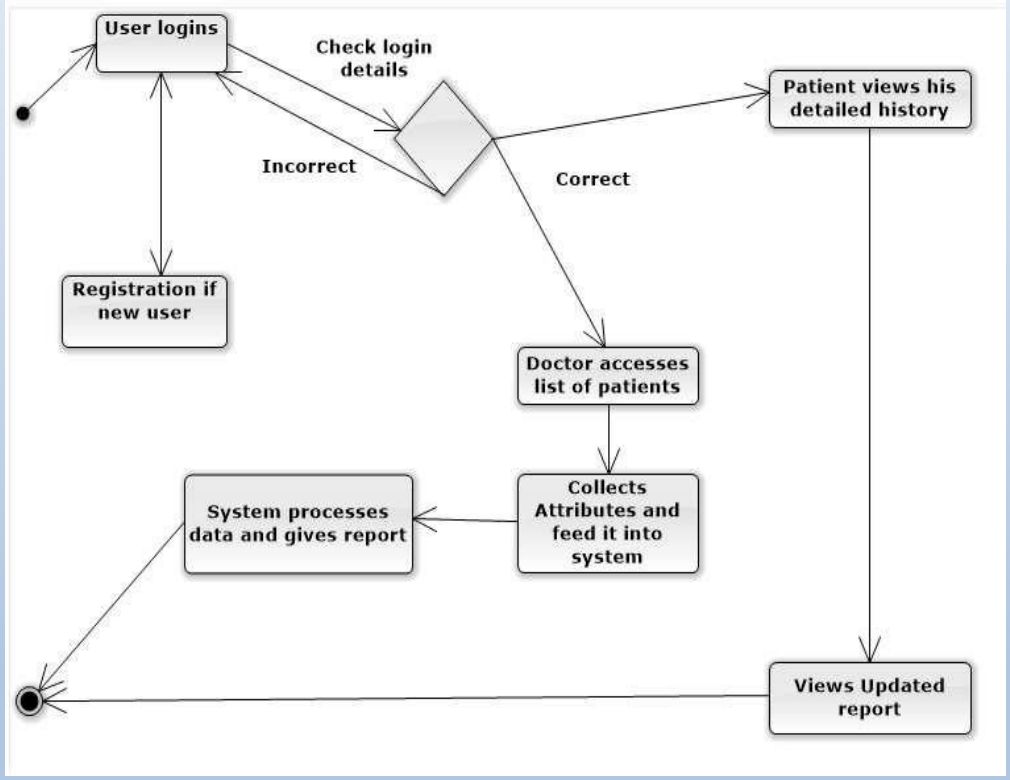
Hardware Requirements:

- Hard Disk: Greater than 15GB
- RAM: Greater than 1GB
- Processor: Core 2 Duo and Above

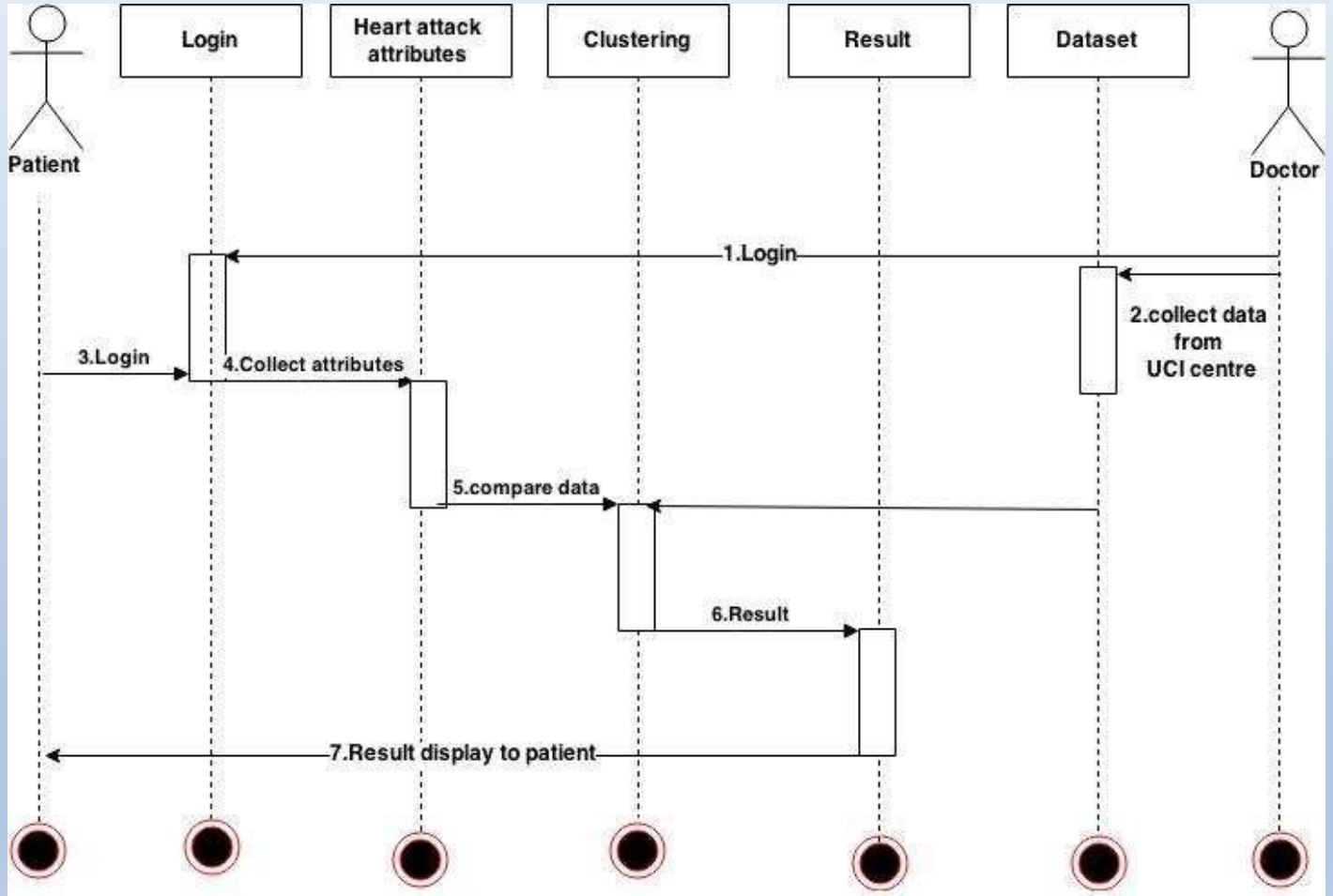
Architecture of the System



Activity Diagram



Sequence Diagram



List of Modules

Modules for Heart Disease Prediction are

- User module
- Doctor module

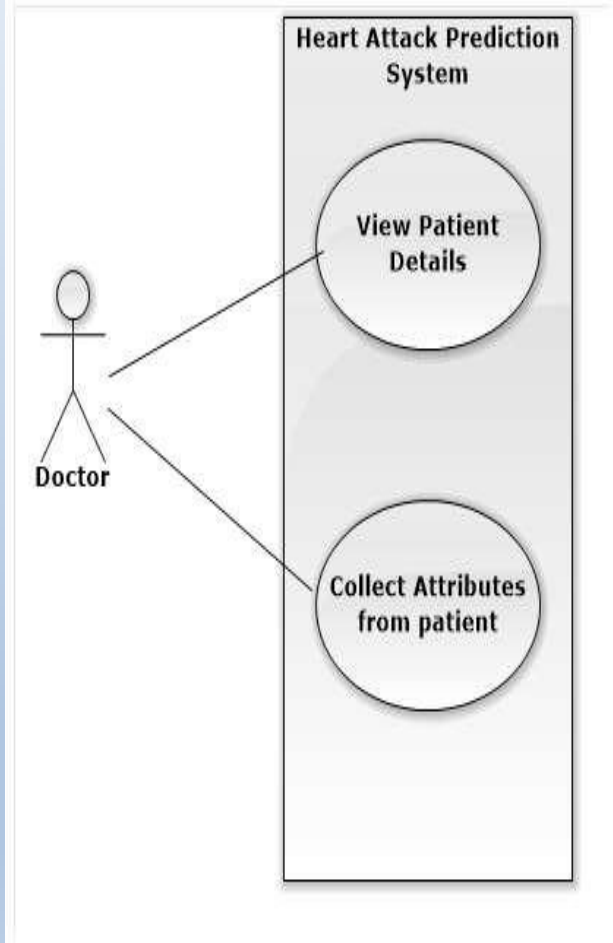
User Module

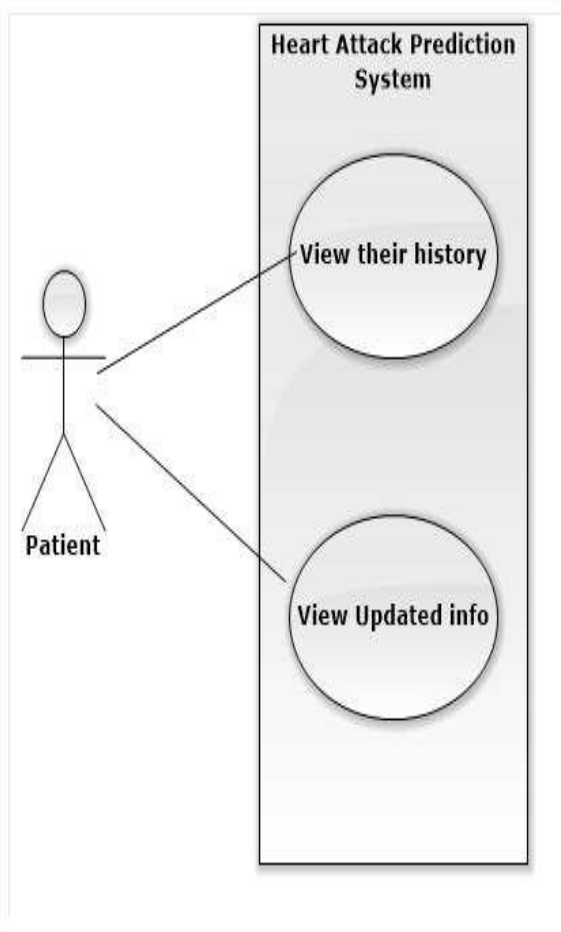
- With the datasets already acquired from the Kaggle, We can now proceed with collecting the details of the patients.
- Data like the patients name, Blood group, Address, Phone number, sex, weight, Height are collected from the patients themselves to help with the creation of an individual user account.
- Already registered user can directly start accessing the system with the help of the user id and password provided.

Doctor Module

- Doctor views all patient details and their Medical History.
- The attributes used are given below Age, Gender, Chest Pain Type, Rest Blood Pressure, Slope, Old, Max Heart Rate.
- The result is a screen that displays the chance of a person contracting heart attack.
- The system then produces a list of suggestions for the person with the given attributes

Use Case Diagram





Reference Links

- UI prototype – refer attached video of this prototype of application.
- Predictive Model that can predict whether user has a chance of getting heart disease or not – refer the code attached.

Conclusion

- Proposed, is a model for predicting the risk of heart disease in a patient using the attributes collected from the doctor.
- Users can also get suggestions like workouts, diet plan etc and they can also find good doctors for treatment.